

NOVELTIES IN GUATEMALAN FLORA: “THE CORYANTHES FILE” (ORCHIDACEAE)

FREDY ARCHILA

Research Associate, Marie Selby Botanical Gardens. Mailing address: 1 Av. 5-28 Zona 1, Cobán, A.V., Guatemala. Email: archilae@gmail.com

ABSTRACT. Guatemala is a country rich in biodiversity. A good example of this is the genus *Coryanthes* Hook. In the 1950s, two species of *Coryanthes* had been documented for Guatemala. After two decades of research, the author presents seven new *Coryanthes* species. A study of this group of plants demonstrates the complexity of the geographical distribution of the genus.

Key words: Guatemala, *Coryanthes* Hook., epichile, mesochile, hypochile

INTRODUCTION

The tropical and subtropical forests of Guatemala are full of surprises that range from an incredible topography dotted with the ruins of ancient Mayan cities to an enormous biodiversity (Archila 1992). A good example of this diversity of life is the genus *Coryanthes* Hook. (Orchidaceae De Jussieu), (Dressler 1993) which was reported for Guatemala in the book Orchids of Guatemala (Ames and Correll 1952; Hamer 1974, 1981, 1988). Ames and Correll indicated that Guatemala had two species of *Coryanthes*: *C. picturata* Reichb.f. and *C. speciosa* Hook. Recently, however, some researchers have indicated that *C. speciosa* Hook. was an endemic species from South America (Gerlach & Schill 1993).

After completing more than two decades of research, we are now able to present seven new species of plants of the genus *Coryanthes* in Guatemala (Table 1):

Coryanthes oscarii Archila
Coryanthes angelantha Archila
Coryanthes recurvata Archila
Coryanthes javieri Archila
Coryanthes selbyana Archila
Coryanthes gustavo-romeroi Archila
Coryanthes melissae Archila.

Coryanthes oscarii Archila, sp. nov. TYPE: Guatemala, Chisec, Alta Verapaz, at 500 m, collected by Oscar Archila, Jan. 1997, FA-062, draw SEL FA13-Gua (Holotype: BIGU 35858) FIGURE 1

Coryanthes maculata similis, floribus flavus et epichyle differentibus. Herba cespitosa.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 8–11 cm long. **Leaves** green, plicate, 50–70 × 10 cm. **Flowers** yellow. **Dorsal sepal** reflexed corrugated in the middle, orbicular oblanceolate, acute-acuminate, 2.2 × 2.5 cm. **Lateral sepals** oblique lanceolate, acute, 2.2 × 2.5 cm. **Petals** oblique linear, 2.9 × 0.4 cm. **Label**lum divided in three parts: epichile, deeply saccate, subtriangular thick, 2.2 × 3 cm; mesochile oblong 2 × 1.1 cm; hypochile sub-spherical subvalvate, 1.8 × 2.2 cm. **Column** linear-oblanceolate 3.6 cm long, gradually dilated 0.5 cm wide across the apex.

Folia 50–70 × 10 cm. **Sepalum dorsalis** orbiculari-oblanceolatus, 2.2 × 2.5 cm. **Sepala laterales**, oblique lanceolati, acuto-acuminati, 7 × 3.5 cm. **Petala** oblique lineares, oblonga, acuta, 3.3 × 0.6 cm. **Label**lum in epyquilum, mesoquilm et hypoquilm divisus. **Columna** oblonga, 4.1 cm longa.

ETYMOLOGY: Named after Oscar Archila, the collector of the species.

Coryanthes angelantha Archila, sp. nov. TYPE: Guatemala—Alta Verapaz, Polochic valley, at 900 m, collected by Oscar and Francisco Archila, 1985, draw SEL FA14-Gua (Holotype: BIGU). FIGURE 2

Coryanthes horichiana similes, leviter majore herba cespitosa vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 6 cm long. **Leaves** green, plicate, 25 × 7 cm. **Flowers** brown. **Dorsal sepal** reflexed corrugated in the middle, orbicular, acute, 1.5 × 2 cm. **Lateral sepals** oblique oblong, acute, 5.5 × 3 cm. **Petals** oblique linear, 2.9 × 0.4 cm. **Label**lum divided in three parts: epichile, deeply saccate, subtriangular thick, 2.2 × 3 cm; mesochile oblong 2 × 1.1 cm; hypochile sub-spherical subvalvate, 1.8 × 2.2 cm. **Column** linear-oblanceolate 3.6 cm long, gradually dilated 0.5 cm wide across the apex.

Folia 25 × 7 cm. **Sepalum dorsalis** orbicularis, acutus, 1.5 × 2 cm. **Sepala laterales** oblique oblongi, acuti, 5.5 × 3 cm. **Petala** oblique lineares, 2.9 × 0.4 cm. **Label**lum in epyquilum, mesoquilm et hypoquilm divisus. **Columna** lineare-oblonga, 3.6 cm longa.

ETYMOLOGY: From the Latin words “angelus” meaning angel and “anthos” meaning flower, because of the angel form of the flowers.

Coryanthes recurvata Archila, sp. nov. TYPE:

TABLE 1. Color and morphological differences in seven new *Coryanthes* species from Guatemala.

Species	Flower color	Epichile	Mesochile	Hypochile	Leaves	Pseudobulbs
<i>Coryanthes oscarii</i>	Yellow	Square, thin 3.2 × 3.6 cm	Oblong-oblanceolate, gland-pubescent 2.21 × 1.4 cm	Obtuse trivalvate 1.5 × 1.8 cm	50–70 × 10 cm	8–11 cm long
<i>Coryanthes angelan-tha</i>	Brown	Saccate thick sub-triangular 2.2 × 3 cm	Oblong 2 × 1.1 cm	Subspherical subvalvate 1.8 × 2.2 cm	25 × 7 cm	6 cm long
<i>Coryanthes recurvata</i>	Yellow and red	Sub-square, truncatate 3.5 × 4 cm	Oblique oblanceolate 2.5 × 1.5 cm	Oblique headed curved 2.5 × 2 cm	45 × 15 cm	10–15 cm long
<i>Coryanthes javieri</i>	White with vinaceous spots	Lanceolate, sub-truncate 3 × 3.5 cm	Oblong-linear 2 × 1 cm	Headed-suborbicular 1.8 × 2.2 cm	35 × 7 cm	5–7 cm long
<i>Coryanthes selbyana</i>	Pink	Orbicular-oval, rounded 3.3 × 3.5 cm	Oblong lanceolate 1.8 × 1.3 cm	Headed-valvate orbicular 1.7 × 2.5 cm	40–50 × 8–10 cm	7–8 cm long
<i>Coryanthes gustav-romeroi</i>	Pink with red spots	Membranaceus little saccate, oval-lanceolate 1.9 × 3 cm	Oblong 2 × 1 cm	Orbicular-headed in basis truncate 1.2 × 1.9 cm	25–35 × 6–8 cm	15 cm long
<i>Coryanthes melissa</i>	Red	Oblique oblong-square, thin saccate 2.7 × 3 cm	Curved oblong 1.5 × 0.7 cm	Sub-hastate, gland-pubescent 1.5 × 1.5 cm	25 × 10 cm	22 cm long

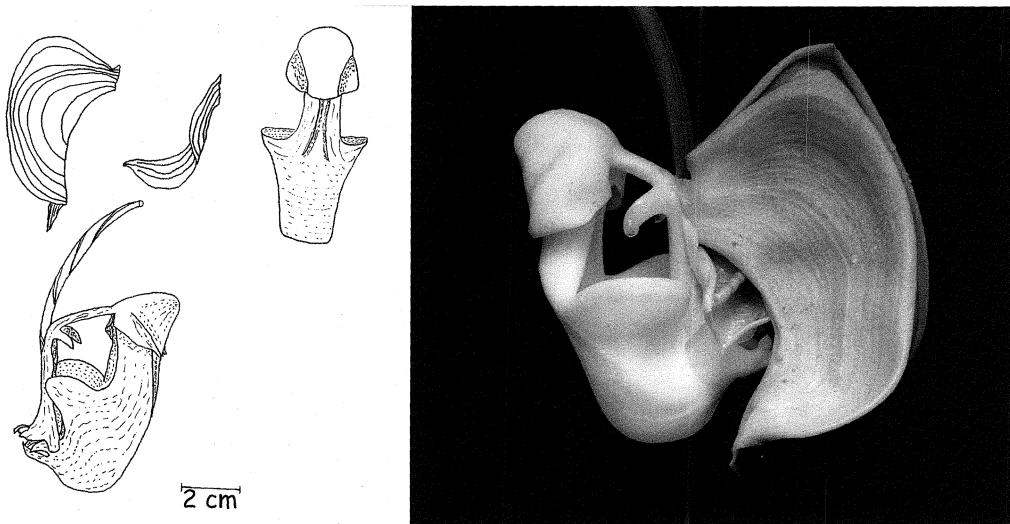


FIGURE 1. Drawing and photo of *Coryanthes oscarii* (FA13-Gua). Art and photo by Fredy Leonel Archila Morales.

Guatemala—El naranjo, El Petén, at 300 m, collected by Fredy Archila in 1995, draw SEL FA15-Gua (Holotype: BIGU). FIGURE 3

Coryanthes horichiana similes, epichile incurvatum et majore. Herba cespitosa. Vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 10–15 cm long. **Leaves** green, plicate, 45 × 15 cm. **Flowers** yellow and red. **Dorsal sepal** flat, orbicular, acute, 2 × 3 cm. **Lateral sepals** oblique lanceolate, acuminate, 10 × 4.5 cm. **Petals** oblique linear, 3 × 0.7 cm. **Labelum** divided in three parts: epichile, sub-square, truncate, deeply saccate, thick, 3.5 × 4 cm; mesochile oblique oblanceolate 2.5 × 1.5 cm; hypochile oblique headed, curvated 2.5 × 2 cm. **Column** oblong 4.3 cm long, gradually dilated 0.9 cm wide across the apex.

Folia 45 × 15 cm. **Sepalum dorsalis** orbicularis. **Planus** acutus, 2 × 3 cm. **Sepala laterales** oblique lanceolati, acuminati, 10 × 4.5 cm. **Petala** oblique lineares, 3 × 0.7 cm. **Labellum** in epquilum, mesoquilibrium et hypoquilibrium divisus. **Columna** oblonga, 4.3 cm longa.

ETYMOLOGY: From the Latin “*recurvatus*” because of the shape of the hypochile.

Coryanthes javieri Archila, sp. nov. **TYPE:** Guatemala—Cobán, Alta Verapaz, in Cubilgüitz, at 500 m, collected by Fredy Archila and Javier Archila in Nov. 2002, draw SEL FA16-Gua (Holotype: BIGU). FIGURE 4

Coryanthes mastersiana, simile labelo differentibus. Herba cespitosa. Vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 5–7 cm long. **Leaves** green, plicate, 35 × 7 cm. **Flowers** white with vinaceous spots. **Dorsal sepal** re-

flexed, orbicular-oblanceolate, corrugated in the middle aristate, 2 × 2.5 cm. **Lateral sepals** oblique oblanceolate, acute-acuminate, 6 × 2.7 cm. **Petals** oblique linear twisted, 2.5 × 0.5 cm. **Labelum** divided in three parts: epichile, lanceolate, sub-truncate deeply saccate, thick, 3 × 3.5 cm; mesochile oblong-linear 2 × 1 cm; hypochile headed, suborbicular 1.8 × 2.2 cm. **Column** linear 3.9 cm long, gradually dilated 0.5 cm wide across the apex.

Folia 35 × 7 cm. **Sepalum dorsalis** orbiculari-oblanceolatus, reflexus, aristatus, 2 × 2.5 cm. **Sepala laterales** oblique oblanceolati, acuto-acuminati, 6 × 2.7 cm. **Petala** oblique lineares, tortiles 2.5 × 0.5 cm. **Labellum** in epquilum, mesoquilibrium et hypoquilibrium divisus. **Columna** linear, 3.9 cm longa.

ETYMOLOGY: Named after Javier Archila Cordez, co-collector of the species.

Coryanthes selbyana Archila, sp. nov. **TYPE:** Guatemala—Fray Bartolomé de las Casas, Alta Verapaz, at 700 m, collected by Fredy Archila, March 1990, draw SEL FA17-Gua (Holotype: BIGU). FIGURE 5

Coryanthes picturata simile, labelum differentibus. Herba cespitosa. Vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 7–8 cm long. **Leaves** green, plicate, 40–50 × 8–10 cm. **Flowers** pink. **Dorsal sepal** reflexed, oblanceolate, acute corrugated in the middle aristate, 2.1 × 2.4 cm. **Lateral sepals** oblique oblanceolate, acute-acuminate, 5 × 3.5 cm. **Petals** oblique oblong, 4 × 0.3 cm. **Labelum** divided in three parts: epichile, orbicular-oval rounded deeply saccate, thick, 3.3 × 3.5 cm; mesochile oblong, lanceolate 1.8 × 1.3 cm; hypochile headed-valvate, orbicular 1.7 × 2.5 cm. **Column** linear 4 cm long, gradually dilated 0.5 cm wide across the apex.

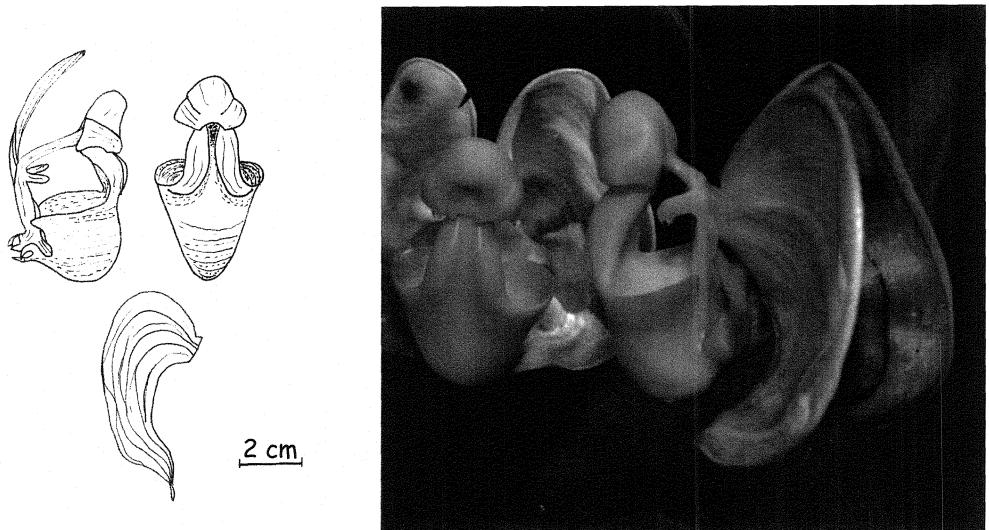


FIGURE 2. Drawing and photo of *Coryanthes angelantha* (FA14-Gua). Art and photo by Fredy Leonel Archila Morales.

Folia 40–50 cm longa et 8–10 cm lata. *Sepalum dorsale*, oblanceolatus, reflexus, acutus, 2.1 × 2.4 cm. *Sepala laterale* oblique falcate, acuti, 5 × 3.5 cm. *Petala* oblique oblongus, acutus 4 × 0.3 cm. *Labellum* in epquilum, mesoquilum et hypoquilum divisus. *Columna* linearis, 4 cm longa.

ETYMOLOGY: Named after the Marie Selby Botanical Gardens in Sarasota, Florida, where I began my scientific interest in orchids at the Orchid Identification Center in the Research and Conservation Department.

***Coryanthes gustavo-romeroi* Archila, sp. nov.**
TYPE: Guatemala—Chisec, Alta Verapaz, at 500 m, collected by Fredy Archila and Javier Archila, Apr. 2002, draw SEL FA18-Gua (Holotype BIGU). **FIGURE 6**

Coryanthes tricuspidata simile differentibus epychilus. Herba cespitosa. Vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. *Pseudobulbs* 15 cm long. *Leaves* green, plicate, 25–35 cm long, 6–8 cm wide. *Flowers* pink with red spots. *Dor-*

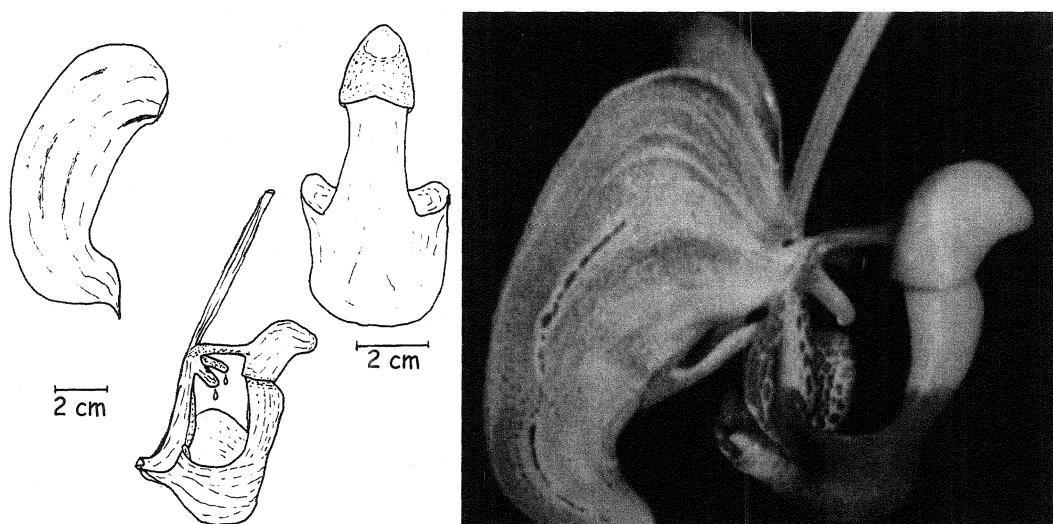


FIGURE 3. Drawing and photo of *Coryanthes recurvata* (FA15-Gua). Art and photo by Fredy Leonel Archila Morales.

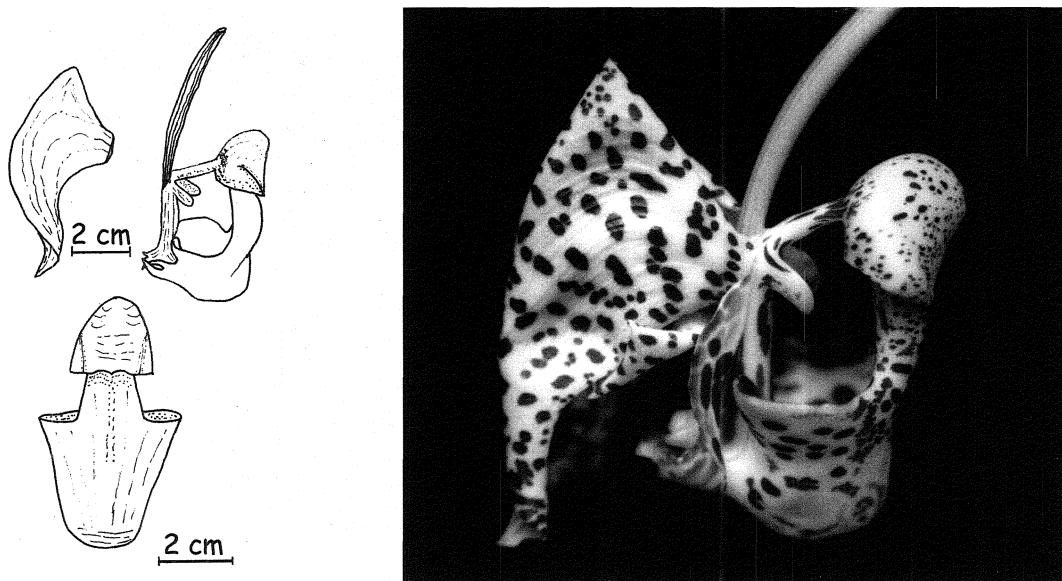


FIGURE 4. Drawing and photo of *Coryanthes javieri* (FA16-Gua). Art and photo by Fredy Leonel Archila Morales.

sal sepal reflexed, elliptic, acuminate corrugated in the middle, 1.4×1.8 cm. *Lateral sepals* oblique oblanceolate, long-acuminate, 5×3 cm. *Petals* linear, 2.5×0.4 cm. *Labellum* divided in three parts: epichile, membranaceous, little saccate, oval-lanceolate 1.9×3 cm; mesochile oblong, 2×1 cm; hypochile orbicular headed, in basis truncate, 1.2×1.9 cm. *Column* oblong 3.8 cm long, gradually dilated 0.8 cm wide across the apex.

Folia $25-35 \times 6-8$ cm. *Sepalum dorsalis* ellipticum,

reflexus, acutus, 1.4×1.8 cm. *Sepala laterales* oblique oblanceolati, longo-acuminati, 5×3 cm. *Petala* lineares 2.5×0.4 cm. *Labellum* membranaceus in epyquilibrium, mesoquilibrium et hypoquilibrium divisus. *Columna* oblonga, 3.8 cm longa.

ETYMOLOGY: Named after Dr. Gustavo Romero of Harvard University, who works with this genus *Coryanthes* and helped me gain access to plant materials in the Ames herbarium.

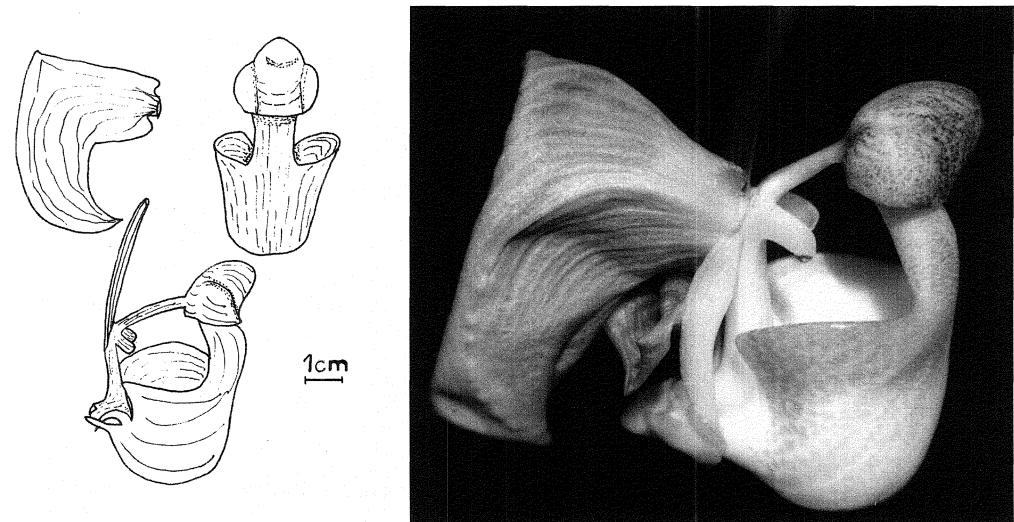


FIGURE 5. Drawing and photo of *Coryanthes selbyana* (FA17-Gua). Art and photo by Fredy Leonel Archila Morales.

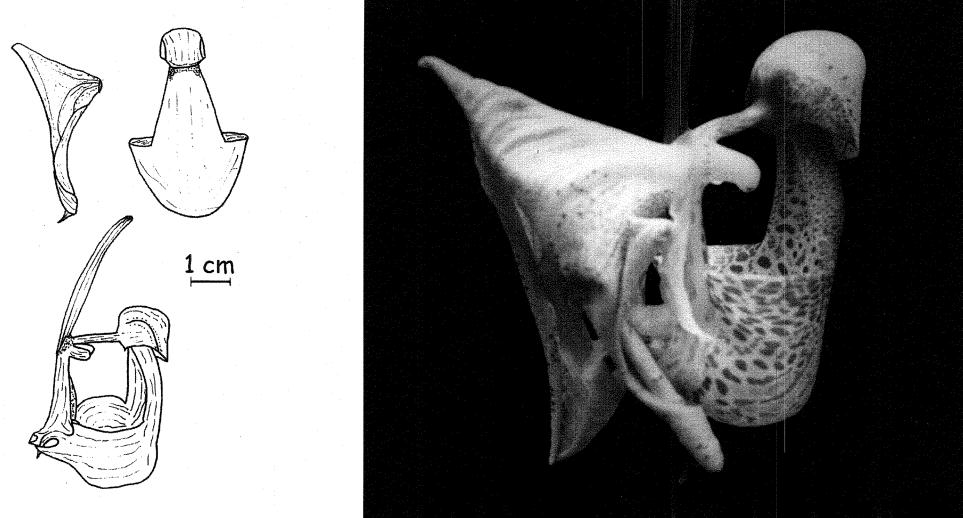


FIGURE 6. Drawing and photo of *Coryanthes gustavo-romeroi* (FA18-Gua). Art and photo by Fredy Leonel Archila Morales.

***Coryanthes melissae* Archila, sp. nov.** TYPE: Guatemala—Chixoy, Alta Verapaz, at 800 m, collected by Fredy Archila and Javier Archila FA-75, April 2002, draw SEL FA19-Gua (Holotype: BIGU 35859). FIGURE 7

Coryanthes speciosa simile et differentibus epichile et mesochyle. Herba cespitosa. Vidi spontaneum.

Plant epiphytic in ant gardens, caespitosa. **Pseudobulbs** 22 cm long. **Leaves** green, plicate, 25 × 10 cm. **Flowers** red. **Dorsal sepal** reflexed, subrhombic, acuminatus, 1.7 × 1.5 cm. **Lateral sepals** oblique oblong, oblique acuminate, 5.8 × 2.8 cm. **Petals** linear, acute-aristate 2.8 × 0.4 cm. **Labellum** divided in three parts: epichile oblique oblong-square thin, saccate, 2.7 × 3 cm; mesochile curved oblong, 1.5 × 0.7 cm; hypochile oblique headed, subhastate, gland-pubescent, 1.5 × 1.5 cm. **Column** linear 2.5 cm long.

Folia 25 × 10 cm. **Sepalum dorsalis** subrombicus, reflexus, acuminatus, 1.7 × 1.5 cm. **Sepala laterales** oblique oblongi, oblique acuminati, 5.8 × 2.8 cm. **Petala** lineares 2.8 × 0.4 cm. **Labellum** in epyquilibrium,

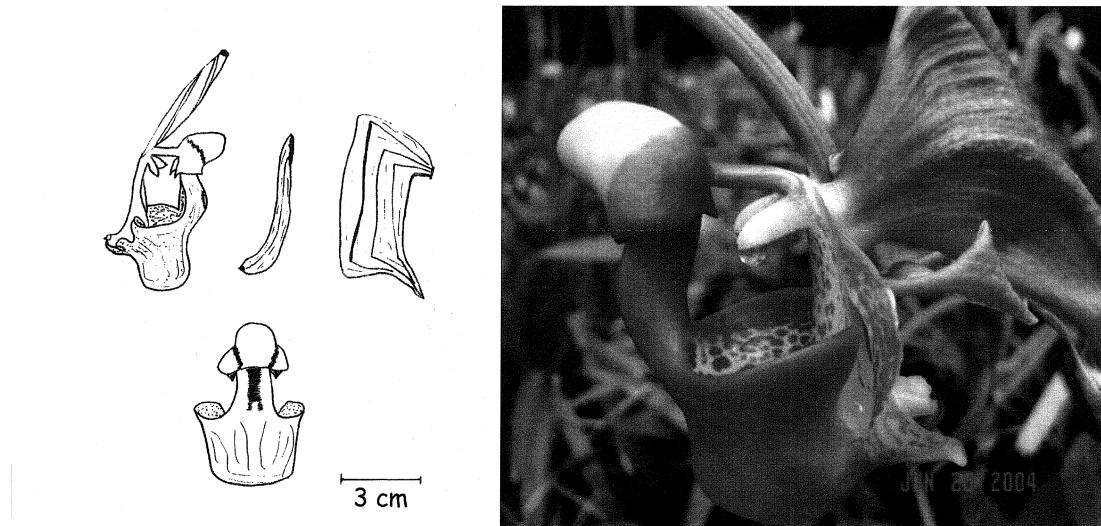


FIGURE 7. Drawing and photo of *Coryanthes melissae* (FA19-Gua). Art and photo by Fredy Leonel Archila Morales.

mesoquilm et hypoquilm divisus. *Columna* linearis, 2.5 cm longa.

ETYMOLOGY: Named after Melissa Archila, who provided the inspiration for this work.

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